



Attorney Docket No.:
MORN-0010 (108347.00021)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Maurice C. Kemp, et al.

Serial No.: 09/873,755

Filed: June 4, 2001

For: **HIGHLY ACIDIC METALATED MIXTURE OF INORGANIC ACIDS**

Group No.: 1616

Examiner: Frank Choi

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

CERTIFICATE OF MAILING: I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313, 1450 June 5, 2003.

M. ALFORD

(Printed or typed name of person signing the certificate)

M. Alford

(Signature of the person signing the certificate)

RESPONSE

Responsive to the Office Action dated March 12, 2003, and having a shortened statutory period for response expiring June 12, 2003, Applicants respectfully request reconsideration of this Application in view of the following remarks.

Pending in the application are Claims 1 – 96.

I. Rejections Under 35 U.S.C. §112, First Paragraph

Claims 1 – 59 and 65 – 96 stand rejected under 35 U.S.C. §112, first paragraph, because the specification is not enabling for the processes described in these claims. The Examiner asserts that the specification is only enabling for processes using sulfuric acid, calcium hydroxide, calcium carbonate, and/or calcium sulfate to prepare “AGIIS.” The Examiner also asserts that one of

ordinary skill in the art would be required to do undue experimentation in order to determine which components could be used in combination with each other and with which processes. Applicants respectfully submit that one of skill in the art would understand both the components and the processes which may be used to create AGIIS and carry out the claimed subject matter, based on the definitions, general description, and specific examples disclosed in the Specification.

As stated in the Specification, AGIIS may be formed by mixing (1) **a mineral acid** with (2) a **Group IIA hydroxide**, or with (3) a **Group IIA salt of a dibasic acid**, or with (4) a **mixture** of the two Group IIA materials. *See*, page 7, lines 18 – 20. A person of skill in the chemical arts would be familiar with the definitions of and which components could be classified as a mineral acid, a Group IIA hydroxide, and a Group IIA salt of a dibasic acid. The specification also lists sulfuric acid, calcium hydroxide, and calcium sulfate as preferred examples of each, respectively. *See*, page 7, lines 23 – 25. Further examples of Group IIA salts are given as calcium oxide, calcium carbonate, and calcium bicarbonate. *See*, page 7, lines 25 – 26. In addition, eight specific examples of AGIIS prepared with these different components are listed. *See*, page 8, lines 4 – 11. Thus, one of skill in the art would be well-equipped to prepare AGIIS using any variety of the general components disclosed above, with special guidance given in the form of specific examples.

The Specification also enables one of skill in the art to utilize the processes disclosed to produce AGIIS. A general process for producing AGIIS is described, with preferential temperature ranges, reaction times, mixing speeds, and components. *See*, page 9, line 1 – page 12, line 12. Specific examples may also be found within Examples 1 – 3. *See*, page 15, line 9 – page 18, line 22. Although reference is made particularly to the use of sulfuric acid, calcium hydroxide, and calcium sulfate, a person of skill in the chemical arts would understand that comparable mineral acids, Group IIA hydroxides, and Group IIA salts of dibasic acids may be used as well. The Specification provides that alternate aqueous solutions of other alkalis or bases may be substituted for those described in the examples. *See*, page 12, lines 7 – 13. Thus, with the disclosed processes as guidance, a person of skill in the art would be fully able to select the appropriate, desired components and create AGIIS.

By providing clear definitions, specific descriptions, and multiple examples, the Specification fully enables one of ordinary skill in the art to practice the claimed subject matter. It is not a function of the claims to specifically exclude either possible inoperative conditions or ineffective reactant proportions. *See Ex parte Vollheim*, 191 U.S.P.Q. 407, 408 (P.T.O.B.A. 1976). Applicants respectfully submit that Claims 1 – 59 and 65 – 96 are enabled and thus patentable under 35 U.S.C. §112, first paragraph.

II. Rejections Under 35 U.S.C. §102(b)/103(a)

A. U.S. Patent No. 5,087,467 to Schwank

Claims 60 – 62 and 64 are rejected under 35 U.S.C. §102(b) or §103(a) as anticipated by or obvious in light of U.S. Patent No. 5,087,467 to Schwank (“Schwank”). The Examiner asserts that Schwank discloses produce immersed in an aqueous solution having a pH of less than 2, or, at the least discloses products containing the same ingredients as Applicants’ claimed subject matter.

Applicants respectfully submit that Schwank does not anticipate or render obvious Claims 60 – 62 and 64. First, Schwank is only directed to preventing the discoloration of vegetables. *See*, Schwank, Col. 2, lines 3 – 5. By contrast, Applicants’ claimed subject matter pertains to a variety of nutriment materials and operates to preserve and extend their shelf life by reducing biological contaminants. *See*, Specification, page 9, lines 18 – 22. Furthermore, **Schwank teaches and claims the additional step of subsequently rinsing the nutriment material to remove the acidic solution**. *See*, Schwank, Abstract; Col. 2, lines 54 – 56; Claim 1. Applicants’ claimed subject matter deals with a nutriment material that has an acidic solution absorbed therein or adsorbed thereon and is not rinsed. Because all of the components are “generally recognized as safe” by the FDA, Applicants’ acidic solutions are safe for consumption and in food contact applications, so rinsing is not necessary. *See*, Specification, page 9, lines 16 – 18. In addition, **Schwank teaches away from failing to rinse the acidic solution** by noting that samples of vegetables which were treated with the acidic solution but not rinsed had a “rubbery” texture. *See*, Schwank, Example 5.

For these reasons, Schwank neither discloses nor teaches Claims 60 – 62 and 64, in which the acidic solution is applied to the nutrient material and not rinsed. Thus, these claims are not anticipated by or rendered obvious in light of Schwank.

III. Rejections Under 35 U.S.C. §103(a)

A. Schwank, in view of U.S. Patent No. 6,375,976 to Roden et al.

The Examiner has also rejected Claims 60 – 64 as being unpatentable over Schwank, in view of U.S. Patent No. 6,375,976 to Roden et al. (“Roden”). Roden discloses an antimicrobial mixture of GRAS inorganic acids and an organic hydroxy acid. *See*, Roden, Col. 2, line 62 – Col. 3, line 5. The Examiner asserts that a person of ordinary skill in the art would be motivated to modify the prior art in order to obtain Applicants’ acidic solution as applied to a nutrient material because the application of mixtures containing acids and salts of phosphoric acid to food substances are known in the art. Applicants respectfully assert that neither Schwank nor Roden, nor the combination of the two, teach that Applicants’ particular claimed composition may be absorbed into or adsorbed onto a nutrient material.

Roden’s disclosed acidic compositions are composed of a mixture of inorganic acids, such as hydrochloric acid and phosphoric acid, with an organic hydroxy acid, such as citric acid. *See*, Roden, Col. 3, line 13 – line 15. Although Roden does suggest that this combination of GRAS components may be safely applied to food products, this suggestion may not be automatically extrapolated to Applicants’ claimed composition of a salt of phosphoric acid and AGIIS, which is a mineral acid and a Group IIA hydroxide, or a Group IIA salt of a dibasic acid, or a mixture of the two Group IIA materials. As discussed in Schwank, the application of a solution of phosphoric acid to cut vegetables may require additional rinsing, in order to improve texture. See, Schwank, Example 5. Particular acidic compositions may impact food quality in different ways. Furthermore, Roden does not contain any examples specifically directed to food applications which might show that the food material remains edible after treatment with the acidic solution. Thus, a person of skill in the art would not be motivated to apply Applicant’s acidic solution to a nutrient material because neither

Schwank nor Roden suggest that Applicants' claimed composition could be applied to a nutrient without adverse effects on texture and taste.

B. Schwank, in view of Roden and U.S. Patent No. 5,087,467 to Wurzburger et al.

Claims 1, 2, 4 – 15, 17 – 38, 40 – 79, and 81 – 96 also stand rejected as being unpatentable over Schwank in view of Roden and U.S. Patent No. 5,087,467 to Wurzburger et al. ("Wurzburger"). The Examiner states that the prior art does not expressly disclose compositions, nutriments, and methods of reducing biological contaminants with a combination of AGIIS and a salt of phosphoric acid having a pH of less than 2, but that solutions for application to food substances containing acids and salts of phosphoric acid are known in the art. Applicants respectfully submit that the references in combination do not render the claimed subject matter obvious because they do not suggest the claimed composition, nor its uses.

As discussed above, neither Schwank nor Roden disclose the use of AGIIS in combination with a **salt of phosphoric acid**, nor do they suggest that such a composition may be absorbed into or adsorbed onto a nutrient material. Wurzburger likewise does not disclose Applicants' claimed composition, but rather discloses acidic compositions that are mixtures of an acid, such as sulfuric or phosphoric, with a metal cation, such as calcium or magnesium. *See*, Wurzburger, Col. 5, lines 36 – 43; Table I. Wurzburger does not teach or suggest using AGIIS with a salt of phosphoric acid.

A person of skill in the art would not be motivated to produce a mixture of AGIIS and a salt of phosphoric acid based on the references because **the references do not teach this particular combination of these particular components**. That it would have been obvious to select specific teachings and combine them as did the applicant must still be shown by identification of some suggestion, teaching, or motivation in the prior art, arising from what the prior art would have taught a person of ordinary skill in the field of the invention. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). In the absence of a suggestion within the references to combine a salt of phosphoric acid and a mixture of a mineral acid with a Group IIA hydroxide, or a Group IIA salt of a dibasic acid, or a mixture of the two Group IIA materials, Applicants' claimed subject matter could not have been considered obvious.

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IV. **Conclusion**

Applicants respectfully submit that, in light of the foregoing comments, Claims 1 – 96 are in condition for allowance. A Notice of Allowance is therefore requested.

If the Examiner has any other matters which pertain to this Application, the Examiner is encouraged to contact the undersigned to resolve these matters by Examiner's Amendment where possible.

Respectfully submitted,



T. Ling Chwang
Registration No. 33,590
JACKSON WALKER L.L.P.
2435 North Central Expressway, #600
Richardson, TX 75080
Tel: (972) 744-2919
Fax: (972) 744-2909



Date